



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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P A T E N T S & T R A D E M A R K S

In re Patent Application of ) MAIL STOP AMENDMENT  
 Alexander Medvedev )  
 Application No.: 10/808,346 ) Group Art Unit: 3766  
 Filed: March 25, 2004 ) Examiner: Mark Bockelman  
 For: METHOD AND SYSTEM FOR ) Confirmation No.: 5447  
 CONTROLLING BLOOD PUMP FLOW )  
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## RESPONSE TO RESTRICTION REQUIREMENT

Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

Sir:

This paper is filed in response to the Office Action dated March 31, 2006. In the Office Action, the Examiner identified three groups of claims, and required the Applicant to elect a single invention for prosecution, under 35 U.S.C. § 121. The three inventions identified by the Examiner are:

- I. Claims 1-9, drawn to a method for controlling a blood pump,
- II. Claims 10-18, drawn to a controller,
- III. Claims 19-23, drawn to a computer readable medium.

Applicant respectfully traverses the requirement to restrict the claims to one of these three identified groupings, for two reasons. First, it is respectfully submitted that the Office Action mischaracterizes the scope of the claims in an effort to draw artificial distinctions between them. For example, when discussing the process claims (claims 1-9) relative to the product claims (claims 10-23), the Office Action states:

The products could be used to control a pump that is pumping other fluids other than blood and do not require any means for determining heart rates or pump speed. As recited now, the blood pump is only capable of being controlled in response to the calculation of a ratio *and not necessarily so*. The machine readable media acts upon media merely for taking ratios, *the ratios can be any machine code*. No code for sensors input or output

codes for controlling the pump is recited and thus as claimed *could be used for calculating ratios of any input.*

It is respectfully submitted that these statements ignore the recitations of the claims. For example, claim 10 recites "a blood pump connected to the patient", and "a controller for regulating the speed of the pump *based on the ratio of the patients' heart rate and the speed of the pump.*" The Office Action asserts that the claimed pump can be used to pump fluids other than blood. If one were going to pump a fluid other than blood, why would such a pump be connected to a patient? More importantly, why would the pump be regulated based on a ratio of the patients' heart rate and the speed of the pump? The Office Action has not identified any support for its allegation that the claimed blood pump system would be used to pump any fluids other than blood.

Furthermore, the statement that the blood pump is only capable of being controlled in response to the calculation of a ratio "and not necessarily so" ignores the claim language. The claim explicitly recites that the controller regulates the speed of the pump "based on a ratio of the patients' heart rate and the speed of the pump." Thus, the claim explicitly recites that the speed of the pump is based upon the claimed ratio. Furthermore, the claim recites a specific ratio, and not merely any ratio.

Similarly, the characterization of claims 19-23 ignores the clear claim language. The Office Action states that the claim reads upon media "merely for taking ratios, the ratios can be any machine code." First, the claim explicitly recites a computer program "that executes the process of regulating the speed of a blood pump." It does not recite a program "merely for taking ratios", as alleged in the Office Action. Furthermore, it does not recite a program for calculating ratios of *any* input. Rather, it recites that the speed of the blood pump is *regulated based on a ratio of the patients' heart rate and the speed of the pump*, i.e. specific inputs.

These same considerations apply to the attempt to distinguish between the subject matter of claims 10-18 and that of claims 19-23. For instance, claims 19-23 are not directed to "merely taking ratios of numbers", as alleged on page 3 of the Office Action. Rather, these claims are directed to a program "that executes the process of regulating the speed of a blood pump connected to a patient."

Accordingly, the restriction requirement is not based upon a proper characterization of the claims. As such, it fails to be set forth a material *distinction* between the various sets of claims that would support a restriction requirement.

Second, the Office Action does not meet the other criterion for a proper restriction requirement. Namely, as set forth in MPEP §803, there must be a showing that there would be a serious burden on the Examiner if restriction is not required. The Office Action does not present a showing sufficient to meet this criterion. All of the claims that are the subject of the restriction have already been searched and examined on their merit, as reflected in the first Office Action. Furthermore, the Examiner has identified a number of claims in each group that contain allowable subject matter. What further burden would be imposed if the Examiner considers to continue all of the claims together? To the extent that non-coextensive searches might have supported a restriction requirement prior to the first Office Action, such a basis no longer exists now that those claims have been examined on their merits.

Furthermore, as demonstrated in the previous argument, all of the pending claims are directed to a common inventive concept, namely the regulation of the speed of a blood pump in accordance with the ratio of a patient's heart rate and the speed of the pump. To continue to examine all the claims that recite this concept would not place a serious burden on the Examiner.

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Accordingly, it is respectfully submitted that the Office Action dated March 31, 2006, does not set forth a proper restriction requirement, and is therefore traversed. Withdrawal of the restriction requirement is submitted to be in order.

In order that the response be considered complete, the Applicant provisionally elects the subject matter of Invention II, namely a controller, for purposes of examination.

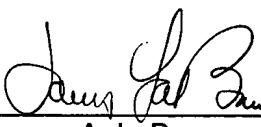
Withdrawal of the restriction requirement and examination of all pending claims are respectfully requested.

In the event this paper is not considered to be timely filed, Applicant hereby petitions for an appropriate extension of time. The Commissioner is authorized to charge payment for any additional fees which may be required with respect to this paper to Deposit Account No 02-4800.

Respectfully submitted,

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